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ABSTRACT

This report is based on five regional forums held in 1983 on the topic of business and vocational education. The forums, conducted in cooperation with the National Commission for Employment Policy and the State Advisory Councils on Vocational Education, provided the opportunity for an exchange of ideas and information with representatives of the private sector. Employers discussed their perceptions of vocational education and education generally, their expectations, and areas where improvements are needed. Several themes were heard repeatedly throughout the forums. One was the reliance of employers on high quality vocational programs to provide trained workers. Another was a desire to see improvement in all areas of vocational education to bring programs up to the highest standards and keep them abreast of the latest developments in technology and skill requirements. Also stressed was the need for greater relevance in education generally to the requirements of the workplace so that all students will be prepared to function when they move into the world of work. The businesses represented were willing to work in partnership with education to help improve quality. (This report contains an overview of the forums, a discussion of business-education partnerships, and conclusions and recommendations by the Council.) (KC)

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**A NATION AT WORK:
EDUCATION AND THE PRIVATE SECTOR**

**A report prepared by the
National Advisory Council on Vocational Education**

**Published by
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NACVE



To the President and Congress of the United States:

This report of the National Advisory Council on Vocational Education, A Nation at Work: Education and the Private Sector, is based on five regional forums held in 1983 on the topic of business and vocational education.

The forums, conducted in cooperation with the National Commission for Employment Policy and the State Advisory Councils on Vocational Education, provided the opportunity for an exchange of ideas and information with representatives of the private sector. Employers, large and small, discussed their perceptions of vocational education and education generally, their expectations, and areas where improvements are needed.

Several themes were heard repeatedly throughout the forums. One was the reliance of employers on high quality vocational programs to provide trained workers. Another was a desire to see improvement in all areas of vocational education to bring programs up to the highest standards and keep them abreast of the latest developments in technology and skill requirements. Also stressed was the need for greater relevance in education generally to the requirements of the workplace so that all students will be prepared to function when they move into the world of work. Of great significance, we believe, was the willingness of the businesses represented to work in partnership with education to help improve quality.

This report contains an overview of the forums, a discussion of business-education partnerships, and conclusions and recommendations by the Council. It is published in conjunction with the National Alliance of Business, at no expense to the government.

We hope that this report will help broaden and add a new dimension to the current deliberations on excellence in education.

Sincerely,

Edward D. Miller
Chairman

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FOREWORD

Vocational education effectively prepares people for jobs. And in doing so, it provides them with opportunities not only to gain economic independence and growth, but also to contribute to their own well-being and that of society.

To provide the best opportunity for students entering the labor market or seeking retraining for improvement and new careers, vocational education must have strong links with the employer community.

The National Alliance of Business shares the National Advisory Council on Vocational Education's recognition of the need for close working relationships between employers and vocational education. We believe the information developed by NACVE through their regional forums and presented in this report will be helpful to all who are concerned with vocational education. Therefore, we have collaborated with them in publishing their findings.

In response to the testimony presented at the forums, NACVE has made several recommendations. Some we support, while others we do not. NAB has developed its own recommendations that are outlined in Appendix A of this report. It is a reprint of an interview with Richard Schubert, president of the American Red Cross, and chairman of the Alliance's Policy Committee.

At the present time, Congress is considering reauthorization of the federal vocational education act. No matter what decisions they make, it is clear that there is both a need and a desire for closer ties between business and the vocational education community. Therefore, we hope this publication will stimulate further discussions about the most effective ways to work together.



William H. Kolberg
President
National Alliance of Business

PREFACE

In the spring of 1983, the National Advisory Council on Vocational Education, the National Commission for Employment Policy, and the State Advisory Councils on Vocational Education conducted five regional forums on Business and Vocational Education. The purpose was to enable members of the business community and others with an interest in business-education cooperation to share their views and perspectives on education, especially vocational-technical education. The forums sought opinions and insights from business leaders on:

- the effectiveness of vocational education at the secondary and postsecondary levels
- the ability of vocational education to respond to changes in technology and training
- the degree to which business works with vocational education to help upgrade programs and instruction
- the problems in working with the education system.

Forum participants provided:

- examples of good working relationships and cooperative efforts
- discussion of the potential for vocational education-business-labor cooperation in the retraining of adult workers
- examples of other education-business linkages.

More than 75 participants from large corporations, small businesses, and entrepreneurs took part in the forums held in Dallas, Atlanta, San Francisco, Chicago, and Boston. They included a wide spectrum of employers who hire the graduates of the education system. Their thoughtful views should receive serious consideration from those who are genuinely concerned with excellence and relevancy in education.

Recent questions about worker productivity, efficiency, and job commitment bring into focus more than ever the skilled labor force crisis facing our nation, and the degree to which the education system equips young people with the types of skills they need to compete in the job market of today and tomorrow. Most schools still place greatest value on preparation for higher education. Yet, analyses of educational statistics show that of 100 students entering first grade, 72 will graduate from high school. Of that number, 43

will enter postsecondary education and training. Only 22 will graduate from a two- or four-year institution four-and-a-half years after entrance.

A primary concern of the National Advisory Council is the need of all students for quality education and training that will prepare them to participate in the workforce once they leave school.

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INTRODUCTION

Think of America as she was building: A great nation created by carpenters, farmers, blacksmiths, railroaders, sea captains, spinners and weavers. Our best architects used the hammer; our first diplomat experimented with electricity and the printing press. Pioneers moving westward built homes and shops wherever they stopped. Then came machinists, steelworkers, autoworkers and entrepreneurs of every stripe.

Today, the kinds of people who built this country are often both out of fashion and out of work. America has passed from the agricultural, through the industrial, into a new technological age. The new technologies and methodologies require a higher level of education than we thought necessary in the past. This educated, skilled workforce is imperative to the nation's social and economic future.

President Reagan stressed this need when he addressed students at the Vocational-Industrial Clubs of America Skill Olympics, June 29, 1983. He stated:

"You will shape, fit, mold, construct and program a new century for America. And once you've done that, you will tune it, alter it, repair it and nurse it along so that it keeps running smoothly. America has no higher stake than in the quality of your education, the sharpness of your skills and your opportunity to use them both in well-paying jobs. That's why our drive for excellence in education must reach every student in every school in every subject. We should see that all our young people get a good grounding in English and literature, history, math, science and the other basics ... We must also recognize that our vocational classrooms are just as important as any other."

The development of human resources must be a top priority as the nation devises strategies to improve its economy and increase productivity. We are entering a new age where high technology, and new applications of technology to production and services, will change the way we live, work, and learn.

The current national dialogue on excellence in education offers the opportunity to define the challenge, sort out responsibilities, and develop coordinated strategies. If effective, it will lead to new partnerships, innovative approaches, and new vigor and excitement that will renew respect for education in America.

Lengthening the school day, and overlaying additional course requirements on the ones already there, without first dealing with quality and relevance, seem to avoid rather than address the issue of excellence.

Vocational education teaches a more realistic understanding of how the economic system works, and thus has an increasingly important role to play in the development of America's human resources. In the new age of technology, a well-rounded education must include vocational and technical competencies. It is no longer just the level of education, but the kind of education that determines achievement and success. The National Advisory Council believes that the education system must emphasize both excellence in education and relevance of education to the job marketplace. We must have closer cooperation between academic and vocational-technical education.

PRIVATE SECTOR VIEWS

Providing Vocational-Technical Education

A major theme heard throughout the Forums was how much business and industry rely on public vocational-technical programs. Most participants said they could not function now and in the future without graduates of those programs.

Many expressed concern about the shortage of skilled workers in a number of fields. They looked to the vocational-technical education system to help alleviate those shortages. For example, Fred Humphreys of the National Association of Homebuilders said, "Forecasters predict that an estimated 2.5 million new construction craftsmen will be needed within the next eight years. There will be an acute shortage unless training programs are in place to provide the skilled workers."

"What's our biggest need?", asked Jack Brady, Director of Fabrication for General Dynamics in California. "Skilled employees! The U.S. Department of Labor estimates there will be 31,000 skilled labor openings per year for machinists until 1990, but only 2,300 new workers will qualify per year," he said. Projected shortages of qualified workers in areas such as health care, business and office occupations, and others were cited.

Of equal concern was the need to assure that vocational-technical instructors are teaching up-to-date skills matching job requirements, and that students are receiving adequate instruction in other competencies contributing to employability in a technological age. Too often, the school system is slow to perceive the need for change. For example, there has been a demand for word processing operators over the past several years, and evidence shows that this demand will increase sharply in the future. Most public school systems, however, are not reacting to this change. They are still teaching typing, shorthand, and hand bookkeeping as commercial subjects.

Education planners must be more flexible and responsive to the labor market it serves. Programs must be ever changing. We can no longer afford a classroom of 20 students studying under one teacher for two years who is following a state-prescribed curriculum developed five years previously.

Participants gave unequivocal support to strengthening the partnership between education and business and industry, as well as the proposition that the business community has a responsibility to help improve programs. They voiced both a willingness and a desire to participate in a viable partnership.

"Business, industry, and unions should give time to developing and testing accountability standards for the various vocational courses."

Eric B. Hilton
Hilton Hotels Corporation

Examples of already existing partnerships such as the High School for the Health Professions in Houston were documented at the forums. That school enjoys extensive involvement by the Baylor College of Medicine which ensures a realistic, state-of-the-art input from industry. Esso Product Research provides consummable teaching materials, Cameron Ironworks underwrote the cost of microscopes and the Medical Electronic Corporation donated a \$3,000 medical evaluation system.

Another Houston high school receives generous corporate support from the engineering community, including a sophisticated computer center, technical assistance in the development of an engineering laboratory, and a loaned corporate engineer who serves as an instructor. Financial contributions for this program have totalled more than \$350,000.

In Idaho, a Return to Industry program between the School of Vocational-Technical Education, Lewis-Clark State College and leading business and industry provides faculty with an opportunity to return to the workplace during the summer to obtain state-of-the-art competencies. Industries also donate up-to-date equipment and material for the programs.

Another example is the "Technequip Partnership", established by the Georgia Chamber of Commerce, to coordinate corporate giving through the Georgia Fund for Occupational Education. The fund provides contributions and loans equipment to area voc-tech schools, supplements faculty salary, finances courses, and shares expertise through personnel exchanges between companies and schools.

The nation's employers need quality vocational-technical education, not only to prepare people for their first jobs, but also to retrain workers who need new skills. Vocational-technical programs, most observed, are the only public education source meeting the training and retraining needs of business and industry. The American economy is shifting very rapidly, and the alternatives to an educated workforce (massive unemployment, worker displacement, low productivity, and workers untrained in the skills that are needed) are too costly to be acceptable. Few of the employers represented conducted significant, in-house retraining efforts, for either their own employees or others. In the current economic

climate, their business operations were focused in other areas. They felt retraining should be a priority of the vocational education system. Two major retraining needs were described:

- Those resulting from changes in job markets where industry exodus displaces workers, and where industry influx means increased job-specific training to produce the necessary workforce;
- Those resulting from the impact of high technology on needed job skills. Both long-range planning and short-term flexibility in educational programs are required to meet retraining demands. Neither business nor education alone can meet the needs. While some businesses have lower retraining needs during periods of high unemployment, economic recovery ultimately will return retraining and skill upgrading as major concerns.

Many Forum participants felt that interaction between education and the business community increases the educator's awareness of training and retraining needs in the workplace and helps keep programs flexible. This interaction also provides the business community with knowledge of the capabilities of the programs, places where improvements are needed, and ways in which business and industry can contribute. Costly in-house programs by business for initial training or retraining are not the solution, especially for small businesses. Public education, participants agreed, is the best vehicle for vocational-technical training. It reaches more people equitably. The school's role is vital, because most of the nation's employment is with small business which cannot afford significant training costs.

"...Industries prefer hiring vocational graduates for jobs requiring less than a four year degree."

Max Gill

Manufacturers' Assn. of Erie

Expanding Technological and Computer Skills

High technology and computer skills were seen as an addendum to basic vocational skills. However, no one wants to see them over stressed.

"It's not whether we adjust to high-tech, but how we adjust to it," observed Larry Patrick, owner of Emerald Lea Farms, Inc. "To be proficient in high-tech, we first have to be good machinists, or good cooks, or good welders, or good plumbers. The point is that 'high-tech' is an advanced application of some craft," he said.

This attitude seems universal. Those who want students to develop high-tech skills thought a stretching should occur as competency

deepens after acquiring mid-level and advanced vocational-technical skills.

Representatives of high-tech industries stressed a trio of educational priorities in the following order: (1) basic communication skills; (2) basic math and analytical skills; and (3) high-tech and computer vocational skills.

Service and production industry representatives had a slightly different set of educational priorities: (1) basic vocational skills and attitudes; (2) basic communication skills; and (3) basic job-related high-tech and computer skills. Participants cautioned against over-emphasizing high-tech skills, fearing that students soon will have difficulty finding jobs in a glutted high-tech market. Ironically, the call for basic computer skills does not come from the high-tech industries. Instead, it reflects the realization that the computer has entered every phase of life. Knowing computer functions is as basic as punching a time clock.

Rethinking the Basics

Mastery of basic skills is fundamental in today's world and should come in elementary and middle school years. Only students who can read, write, compute and communicate can achieve competency in modern vocational-technical programs. Forum participants felt strongly that while education must stress the basics, it must redefine them to be work-related. Vocational programs and career exploration can be extremely useful in helping many students see the relevance of the basics to their work lives and to their futures.

Approximately 80 percent of the jobs in America, we are told, do not require a college education. Yet, too often students go directly into the world of work without usable skills and an understanding of how to work. Even many who complete the baccalaureate degree are unprepared for work and return to community colleges and vocational-technical schools to learn the skills needed to make a living. While there may be inherent value in education for education's sake, most parents and students expect a practical value. Every student who leaves school, at whatever level, moves into the world of work.

"Too many bright and intelligent individuals find after receiving a degree, they must seek vocational training to achieve the financial goals they thought their liberal arts degree would bring them."

Claudette Enus
Reynolds Electric and
Engineering

However, employers do not have time to provide remedial education, nor should they be expected to provide it. What they are asking from the schools is tougher than literacy and elementary math. In addition to quality vocational-technical education, which provides the groundwork for advanced, more specific skill training, employers want communication and analytical skills, and other work-related competencies.

"A good example of misreading industry feedback to educational needs is the back-to-basics backlash. Industry people have been strongly advocating better business-english skills training and ... this has been interpreted by some legislators/educators as 4 years of English literature."

Janet Hunt
Standard Oil of California

Improving Attitude and Guidance

Students need to learn realistic work attitudes and behavior early in life. These must be instilled long before students reach drop-out age. Students should be taught from age five that people work eight hours a day; and from the first day of school that if they become functional illiterates they will be short-changed for the rest of their lives.

Business people believe that students need vocational exploration and skill preparation to understand and prepare for the world of work. Limiting vocational-technical education, or putting it off to the last year in school may very well perpetuate a corps of youth without degrees, job skills or jobs.

Business people would like to see high quality students attracted to vocational programs. They believe the true story of vocational education should be told to students, parents and counselors through an image-building campaign.

Many employers blame poor counseling for the mismatch between high school demands for four-year degree programs and low job market demands for college degree graduates. Counselors need a much greater awareness of the job market and training opportunities to prepare students for the realities of work.

"We must take the position that every teacher is a counselor with the responsibility to influence attitudes and provide counsel about the world of work. We must focus on increasing the knowledge of teachers about the business community and careers offered therein."

William Hart, Jr.
Sybron-Taylor

Employers would like to see more school-to-work transition programs. They gave several examples:

- Job placement assistance
- Career counseling
- Cooperative career information activities with business
- Counseling about vocational-technical program alternatives to college degree programs

Although business people stressed the importance of parents and instructors in the counseling process, they also indicated they would like to be more involved. The Forums produced examples of successful programs where business people work directly with administrators, counselors, parents, students, and vocational student organizations in helping students perceive their potential in our working society.

Vocational student organizations were cited as a major contributing influence in building positive attitudes toward work and learning, individual motivation, and understanding of and appreciation for realities of the world of work. These organizations are in the forefront in developing close linkages with the business community. All have boards of directors that include business representatives, and all promote cooperative ventures with business and industry.

"Thanks to vocational education, and the Future Business Leaders of America, I have maintained a more positive attitude toward life and a level of confidence that will allow me to face the challenges of life head on."

Christopher B. Stone
National Officer
Future Business Leaders of
America

Cooperative programs resulting from business-education partnerships are producing better trained workers, realistic career aspirations and expectations, and improved work attitudes. Because most employers felt vocationally trained students made better employees, they gave them priority in hiring.

"Whenever we do encounter persons with any record of vocational training, we immediately advance their application to the top of the stack."

Milt Honea
American Transportation Corp.

**Developing
Communication
Skills**

Forum participants indicated they thought schools are not adequately providing students with practical, basic communication skills. Tomorrow's work will go to those with good communication and good work skills. Showing up at the factory door and learning by watching ended with the computer, the robot, and today's sophisticated machinery. Robots perform menial and hazardous tasks better than humans and are reprogrammable for changing tasks -- making them more flexible than people who cannot read manuals and reprogram themselves.

The principal concern of most participants was that business is spending too much time and money on remedial training in communication and other basic skills.

Many business people defined basic communication skills as the ability to:

- communicate with employers, potential employers, and co-workers
- read and understand instruction manuals
- write clear and concise instructions for others to follow.

**Emphasizing Math,
Science and
Analytical Skills**

Lack of mathematics and analytical skills among today's graduates dismays employers. They see America losing its competitive edge if this continues. The startling indifference to these basics is made clear by a few statistics and comparisons with other countries:

- By the end of the third grade, half of U.S. students have formed negative attitudes toward science; by eighth grade, only 20 percent think well of that subject.
- Only 20 percent of U.S. high school students have three years of math; under 10 percent have three of science. In West Germany and Japan, nearly 90 percent of the students have three years of each.
- Each year, some five million students in the U.S.S.R. study calculus for at least one year; less than 105,000 U.S. students do so.
- Analytical and scientific/mechanical skills are vital in a technological economy. One manufacturer noted that when his high-tech equipment breaks down, the workers in his Japanese plant fix it and go on with the job. The workers in his American plant must stop; they are capable only of operating it. Another participant pointed out that new management theories are pushing decision-making closer to the worker in all businesses and industries. Arranging, scheduling, and setting objectives can be done only by a

person who can analyze a problem and make a decision based on knowledge and experience.

"Labor intensive jobs of the past will be replaced by jobs that will require higher order thinking skills such as inference, synthesis and analysis."

Chris Quackenbush
Q-Tech

A BUSINESS/EDUCATION PARTNERSHIP

Employers who are most satisfied with vocational education graduates know the most about the local programs and have contributed to them. Even the non-involved agree that business-education cooperation for mutual reinforcement is critical.

When schools and the business community ignore each other, both students and employers are the losers. Students graduate without knowing what kind of job they want, or worse, head confidently to the company personnel office only to discover they are unemployable. Employers go begging for people to fill their needs and often resort to recruiting seasoned employees from other companies at higher cost, since they represent the only knowledgeable pool of talent available.

Too often, education suffers the least embarrassment. Careless schools run students through programs, graduate them and start on the next batch. Many of these institutions measure success by total numbers in attendance. The school budget, rather than community need, often determines what is taught, and it is easier to attract a class of 50 in current events, at less cost and with instructors relatively easy to find, than it would be, for example, for a class of 50 in precision machining. Everyone teaching or counseling already has a job. Therefore, the pain of unemployment is what happens to people they once knew --after they are gone and no longer known. Meanwhile, education loses respect and support in the community and wonders why.

The consensus was that general education is well behind most vocational programs in perceiving the need for business involvement in education. In contrast, business and industry reported that many vocational educators are eager to upgrade their programs. The best vocational programs in the country grow out of an education-industry partnership -- and this, all testimony emphasized, is the single most encouraging sign. Students fortunate enough to be in a vocational program that is clearly tied to work reality, through cooperative ventures with business and industry, understand the requirements and the opportunities in their field. They are often the first hired because employers are familiar with their capabilities.

Creating and Maintaining the Partnership

True and meaningful partnerships, through formal and informal links, are needed and wanted. If education and business are to work together, their partnerships must be based on trust, respect, commitment, and a framework for cooperation.

"Business and vocational educators need to be in dialogue in order to insure that attempts to upgrade the program are done when necessary. One-time overhauls are not enough."

Betsy Schwammberger
National Federation
of Independent Business

Many participants discussed the role of advisory committees, or other types of arrangements where business and education can come together to develop general policy on curricula, and standards for student performance and instruction.

Artificial partnerships formed primarily to comply with government regulations are not productive. One participant observed that committees can be "paper tigers" that perpetuate "an image of sham partnerships." Business people generally agreed that instructors and administrators must assure such committees that their recommendations will be seriously considered.

"I think we should seek a greater representation on our councils from business and industry, and fewer from education and governmental agencies."

Milt Honea
American
Transportation Corp.

Most who commented on the process for creating partnerships said education should make the first move by approaching business. Business people often perceive educators as unreceptive to the idea of true partnerships. Educators taking the initiative will help change such perceptions.

Increased confidence in the student is the overall effect of increased business participation. Preferential hiring of graduates was attested to where a partnership exists.

The benefits of business participation in education include:

- Better cooperation on joint ventures
- More relevant and current curricula
- More realistic and current planning and counseling programs for students
- Better planning for short and long-term training needs

Upgrading Instructors

- Greater performance accountability
- Greater use of business management principles

Businesses and industries that have opened their workplaces to educators report a double bonus. They get better graduates because instructors are better informed, and they have learned that those once anonymous teachers become enthusiastic supporters of business education cooperation.

To many, the principal concern was that instructors keep in touch with the real world of job skill needs and opportunities. Instructor awareness of job market realities increased:

- the employability of students, because employers tend to give hiring preference to students taught by instructors who have been trained by industry;
- the ability of instructors to provide useful and accurate career counseling to their students; and
- the awareness by employers of the positive relationship between instructional quality and the ability to instill skills and productive work attitudes in students.

Most commented that schools need to develop more cooperative agreements with business to keep instructors in touch with the training needs of employers.

"Industry is willing to help; indeed, it must."

Jack Brady
General Dynamics

Suggestions included:

- Summer programs that place instructors in jobs related to instructional areas
- Relaxed teacher certification requirements that permit retired workers to teach vocational skills
- Cooperative agreements whereby business provides instructional assistance by loaning employees
- Active business advisory councils assigned to work with each instructor or instructional area.

Updating Equipment

Schools need access to modern equipment. The clear consensus was that business could and should assist education in assessing and meeting its equipment needs. Business representatives suggested they could:

- Advise instructors on the applicability of classroom equipment
- Loan or donate equipment, and train instructors in new types and uses of equipment
- Provide access to equipment through cooperative programs that give students opportunities to learn at the business site, including off hours.

Several commented that business and industry are beginning to rediscover their own advantage of having access to students trained on job-relevant equipment. Educators are likely to find businesses increasingly responsive to keeping vocational programs properly equipped.

"We should be willing to share our space, our machinery and equipment, and our professional and skilled personnel to help shape curriculum and to facilitate its presentation."

Walter Whalen
A.B. Dick Products

The Challenge

Students learn attitudes and skills beginning in kindergarten and the early grades. The school must rethink its approach to total education -- to the task of communicating the knowledge students need to live and work productively and with dignity. As the many hours of testimony evolved and was digested, it became possible to describe the new approach business and industry would suggest to the nation's schools:

- "Learning to make a living" must become a new basic component of education. Vocational-technical education is a major contributor to this goal.
- The other basics that schools must emphasize are communication; math, science, and analytical skills; technological and computer skills; and counseling.
- Business must work closely with schools to ensure that students truly understand the realities of work and receive the most up-to-date training.

The time is gone when we can safely compartmentalize education. Certainly some students will pursue the academic track straight to

a college degree. Others will graduate from high school fully qualified to become auto mechanics or word processors. All, however, must eat, pay the rent and buy clothing. Therefore, vocational-technical education and academic education must be integrated to help all students lead productive lives. Education must respond to meet the challenges of this rapidly changing world, and become what it must be -- a tool for living, thinking, and working.

"There has been a lot of talk about minimum competencies and not much about maximum competencies. If we're going to survive in today's competitive world, we're going to have to return to excellence."

Jesse Hibbitts
Dow Chemical

CONCLUSIONS OF THE COUNCIL

As a nation, we must produce to survive. In a competitive world economy, improvement in the productivity of business and industry and in the quality of goods and services produced is essential if the United States is to remain a major economic power. Effective use of vocational-technical education resources should be a major strategy in developing national policy in response to this challenge. The U.S. can compete only with a properly educated population capable of translating education and training into worthwhile and productive activities in the workplace. Based on extensive testimony heard at five regional forums, review of current research and other data, and council member observations and deliberations, the Council draws the following conclusions:

I Productivity and the Workforce

The nation's vocational-technical education resources must be used with maximum effectiveness in providing initial entry training, upgrading and retraining.

No nation can survive solely on a service or information economy. The ability to support services at home and purchase goods abroad depends on the production of goods, including agricultural products, that are competitive in price and quality on the world market. Jobs in industry that provide added value to raw materials are among the best paying jobs in the economy. The U.S. is exporting such jobs and raw materials, and importing finished products, while increasing numbers of workers must turn to generally lower paying service industry jobs. The shrinking number of workers in manufacturing can lead the economy only if the smaller number is more highly skilled and productive.

II Basics

All students must acquire basic skills taught in a way that relates to the world of work.

The basics, and computer literacy, should be stressed for all students -- those who plan to go directly into the world of work after high school, go to postsecondary vocational-technical programs, or go on to college. The goal of education should be mastery of the basics before students reach the last years of high school. Students entering vocational programs at the 11th and 12th grade levels should already have proficiency in the basics and not have to take remedial training. Students who cannot read, write, compute, analyze and communicate cannot achieve competency in modern vocational-technical fields.

The 11th and 12th grade levels should include mutually reinforcing coordination between academic and vocational-technical education. In all too many places, programs are totally separated, with no linkages between them. Academic programs should be structured so they are available to vocational students who need to upgrade specific academic skills in order to enhance vocational-technical competencies. Conversely, vocational-technical programs can be utilized to demonstrate, through practical application, abstract concepts in math, science, and other academic disciplines. Programs should be rigorous and relevant to student interests and should utilize experiential learning through laboratory instruction, part-time work, community involvement, and other cooperative ventures with business, industry and other groups.

Excellence in education will not be achieved by increasing more of the same requirements without first reviewing existing programs for quality and relevance. Before lengthening the school day and adding more course requirements, administrators, school board members, and legislators must rethink how to provide meaningful and challenging education. A major problem for many students is boredom and lack of motivation, not lack of ability. In imposing new requirements, policy makers must assure that quality vocational programs are not eliminated or so reduced in time as to make them useless in preparing students for employment.

III Work Ethic

Education must promote understanding of the work ethic and the commitment to it.

The work ethic focuses on the importance of work or purposeful activity, and to qualities of character promoted by work. Thus an individual committed to the work ethic would look upon work as a means of earning a livelihood, as a way of making a contribution to society by providing a quality product or service, and as an expression of one's individual worth. In particular, that individual would understand and appreciate that such characteristics as craftsmanship, punctuality, self-reliance, self-discipline, commitment, and responsibility are vital for successful work performance.

All education contributes to preparation for work. The machinist as well as the teacher must arrive on time. The computer technician as well as the surgeon must respond to emergency situations. The aircraft mechanic and the engineer must keep abreast of developments in their fields. Teachers, and guidance counselors especially, must take a new and broader look at the purpose of education and the needs of the students they serve. Part of the education process must be to develop in students an understanding of responsibilities and opportunities in the world of work, a positive

attitude about work, and an appreciation of the relevance of their education to the world of work.

IV Vocational- Technical Programs

A. Vocational-technical education must be regularly updated and improved in all aspects to meet the needs of students and respond to the challenges of productivity and technological change.

Training must be updated to prepare students with skills, technical knowledge and work habits that match the requirements of the work place. Programs that are outmoded and teach obsolete skills must be eliminated as unfair to the student, the employer and the community that pays for them. Vocational and technical programs of high quality must be made available to any student who desires to enhance his or her career opportunities. This Council is aware of many high quality programs throughout the nation. Business leaders who testified at the Forums brought still others to its attention, and reinforced the knowledge that the characteristics of quality programs are:

- 1) commitment and support by policy makers and administrators;
- 2) serious program planning, including use of supply-demand data;
- 3) partnerships with business and industry, labor, and community through advisory councils, foundations and other arrangements;
- 4) effective guidance and counseling support systems;
- 5) qualified, committed instructors;
- 6) up-to-date competency-based curriculum that builds on the basics;
- 7) occupational skill development;
- 8) employability skills and motivation;
- 9) citizenship and leadership development through vocational student organizations;
- 10) relevant work experience;
- 11) modern equipment and facilities;
- 12) placement services; and
- 13) periodic follow-up and evaluation with students after they complete the program.

Most businesses are not organized nor can they afford to provide the education and training needed for youth to enter employment. Certainly, industry invests heavily in training, but the training is

directed toward problems or processes unique to each business or industry.

A necessary goal of business and industry is profit. Although business and industry invest in essential inhouse training, they should be trainers of last resort. They should not be expected to assume the costs of operating large scale training programs that duplicate the occupational training efforts of tax supported systems and institutions. They do, however, have a legitimate interest and responsibility in seeing that tax-supported programs are effective.

Business, industry and individuals pay taxes that support education. Budget deficits now require review of all investments in education, training, social welfare programs and income maintenance efforts at the federal, state and local levels. Policy makers should consider the effect of redirecting a large portion of such investments toward improvements in the public vocational-technical education system of this nation. It is time for full cooperation among vocational-technical education, industry, and business with regard to what should be taught, where and to whom.

B. Equal and life-long access to vocational-technical programs must be available.

Everyone should have access to quality vocational-technical programs regardless of race, color, creed, religion, sex, age, disability, or socio-economic status. As business and industry responds to technological and market changes, their employees will need access to quality training and retraining over their lifetime to continue their career and to avoid displacement. Attention should also be given to the problems of providing quality programs in isolated rural areas. The Council continues its commitment and leadership efforts toward increasing opportunities for special needs populations and equal access to vocational education for all persons of all ages.

V Entrepreneurship

Entrepreneurship education including management, motivation, leadership and business training must be included in vocational-technical education programs.

Special attention must be given to self-employment and the development of small business, which is increasingly important in the economy. According to the U.S. Chamber of Commerce, the rate of new business ventures has accelerated each year since 1978, and has now grown to an annual rate of more than \$14 billion in new investment. Six years ago it was only two percent of that amount. Vocational-technical education can help identify and develop the entrepreneurial spirit and capacity while helping make it work to the advantage of students and the economy.

Research indicates that vocational graduates are more likely than other high school graduates to become entrepreneurs. Secondary schools can teach students about entrepreneurship, create awareness, and develop leadership skills and motivation. Vocational-technical education, as it becomes more deeply involved in adult retraining, can build on the increasing interest in entrepreneurial activity among adults.

Working closely with the private sector, vocational-technical education must expand its horizons to provide greater options for students and contribute to increased productivity through involvement in entrepreneurship. This is a new venture that will require non-traditional, flexible instruction.

VI Partnerships

A. Education, business and industry, labor and government must work together.

As stated in the Council's testimony before Congress about the federal Vocational Education Act, incentives should exist for business and labor to join in a cooperative effort with vocational education in:

- 1) planning for changing technology and skill requirements;
- 2) retraining and upgrading the skills of existing workers in industry before they become unemployed;
- 3) job-specific training for new or expanding business;
- 4) donating supplies, facilities, equipment, and business expertise;
- 5) expanding cooperative education-work experience; and
- 6) promoting an exchange of teachers and workers between the classroom and the work site.

The most important incentive that employers can receive for participation in the partnership is a significant improvement in the quality of employees and productivity. Participation in the partnership must be beneficial to both students and the economy. A major commitment must be made by business, industry and labor to provide vocational-technical education with the assistance it needs.

B. National, state, and local advisory councils for vocational-technical education are essential links in building and maintaining partnerships.

Advisory councils exemplify the importance of citizen input to the educational system and assure that decisions that affect the lives of

our children and our fellow citizens are made' with the best information available. To be effective, councils must have broad representation from various segments of the community. But, the majority of members should come from the businesses and industries for which the students are being trained. More importantly, advisory councils can be only as effective as the interest of vocational educators in obtaining advice, involving members in meaningful discussion, and responding to recommendations.

C. Vocational student organizations are a vital part of the partnership equation.

The Council recognizes the significant contributions of vocational student organizations. As an integral part of the curriculum, they provide strong impetus for the development of leadership, citizenship and motivation. Forum participants stated they are an effective means of promoting interest and commitment to the work ethic. The organizations give students an opportunity to demonstrate through a variety of unique activities the relationship of the work ethic to their chosen course of study. Vocational student organizations have established strong ties with the business community over many years. These ties help demonstrate to students the relevance of their studies to the world of work, and provide to business people an appreciation of the quality of vocational students. This interaction provides a model for building broader partnerships.

VII Employment

A. Jobs will remain fundamentally the same, but new technology will require additional knowledge and skills.

Vocational educators must become aware of, and make program and curriculum changes which reflect the changing nature of jobs. The growth of high technology industries has not generally brought about drastic changes in job classifications, except to restructure some positions or to augment current skills through the applications of "high tech" procedures. In most cases, the fundamental skills remain unchanged. Some new occupations of a highly technical nature, such as laser technician, have emerged. Such occupations, however, will employ relatively few people. Job opportunities for computer programmers in 1990, projected by the Department of Labor, will hardly surpass the number of additional automotive mechanics needed by that date. The auto mechanic, however, will require a broader range of skills to be able to repair automotive computers, and use computers as diagnostic tools. Most jobs in the workforce will still require the fundamental vocational-technical education skills we know today.

-
- B. Job placement services must be part of every vocational-technical program and a major focus of the business-industry-education partnership.**

Placement should be a responsibility of the vocational-technical education program that trains for employment. Programs that do not include job placement are incomplete. Assistance in placement is one of the major contributions that can be made by business and industry, and should be included in all partnership arrangements.

RECOMMENDATIONS

The Council makes the following recommendations to the President, Secretary of Education, Congress, the business community, and educators. They are made for the benefit of students, parents, and the general public, all of whom stand to gain from improved education and training, and the effects that such improvement will have on an economy strengthened by higher productivity, social stability, and individual opportunity.

1. **The Administration should construct and implement a long-term domestic policy for full development of our nation's human resources.**

Such a policy should focus on the role of education, including vocational-technical education, as a major component in addressing economic and social problems, and in reclaiming the full potential of America's human resources. For too long, the nation has relied on short-term reactive policies and programs that attempted to correct problems after they became intolerable. It is now time for a human resources policy based on a sustained, positive approach to prevent the need for later short-term rescue measures.

2. **Congress should redirect Federal investments in various education and training programs to implement a national human resources development policy.**

The key to that policy should be improvement and utilization of the vast vocational-technical education resources in which the nation has invested so heavily over the past decades. This investment has created strong partnerships and generated enormous dividends in commitment and financial support at state and local levels. That commitment, if coupled with private sector involvement and support, can bring about the quality programs, facilities, and instruction envisioned for developing skilled, motivated citizens who will contribute to the nation's well-being and their own self-fulfillment.

3. **Policy makers at all levels should ensure quality vocational-technical education as a fundamental part of the regular course of study.**

Vocational-technical education is too often considered an "elective," and as such is among the first programs considered for reduction or elimination. Vocational-technical programs should be available to all students who need and desire them. They should be used as a major resource for retraining dislocated workers and upgrading existing workers to meet technological changes. Such retraining programs should be available to meet the specific needs

of new and expanding industries, and of industries that must improve productivity to meet foreign competition so as to help industry and to assure the employability of the students.

- 4. The U.S. Department of Education should lead in making needed reforms, and develop leadership committed to redesigning the educational system at national, state, and local levels.**

The redesigning should be aimed at promoting greater cooperation between academic and vocational-technical education, and assuring that young people and adults have access to quality programs that successfully teach the basics, concepts of work ethic and entrepreneurship, family life education, and preparation for either employment or further education. National priorities must be reordered to develop an educational system that is second to none in the world in producing literate, skilled citizens and workers. It must be recognized that, although efforts and resources must be committed over a sustained period of time, the investment will yield dividends greater than can be realized through remedial programs, welfare, and other income maintenance programs, and at far less cost.

- 5. Business people and educators should start now to develop processes that stimulate the growth of partnerships among business, industry, labor, education and government.**

The following actions can be taken immediately to improve and expand vocational-technical programs, and make education generally more responsive to the needs of students, employers, citizens and communities:

- Educators should take the initiative in building stronger linkages with the private sector, creating an atmosphere of receptivity, and demonstrating the flexibility and willingness to accommodate the concerns and needs of business and industry.
- Business and industry must clearly define their needs and collaborate with education in setting standards, improving programs, providing equipment, augmenting instruction, developing work experience opportunities for students and teachers, and more to assure that vocational-technical programs match current and projected employment needs.
- Guidance and counseling personnel must become more familiar with occupational and entrepreneurship educational opportunities, and make students aware that, in addition to jobs requiring vocational-technical skills, entrepreneurship and business ownership are viable career alternatives.

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- Administrators, teachers, and employers must support vocational student organizations in their efforts to build leadership, motivation, and initiative in students and must promote the activities of such organizations as an integral part of vocational-technical programs.
 - A primary goal of the business-education partnership should be the placement of well-trained workers in good jobs. The development and implementation of placement services must be part of every vocational-technical program.

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Standard Oil Company of Indiana - Chicago

Illinois Advisory Council on Adult, Vocational and Technical Education

Visiting Nurse Association of Boston

National Alliance of Business - Washington, D.C.

We also wish to thank the many State Advisory Councils on Vocational Education for their supportive efforts.

APPENDIX A

Business 'Builds Bridges' to Vocational Education

Richard Schubert, president of the American Red Cross, chairs the National Alliance of Business' policy committee. He recently presented the Alliance's position on the reauthorization of the Vocational Education Act to the House Subcommittee on Elementary, Secondary and Vocational Education. As the former vice chairman of Bethlehem Steel, and as a member of the National Research Council's Committee on Vocational Education and Economic Development in Depressed Areas, Schubert knows the issues and how important the outcome can be for business.

Why is the reauthorization of the Vocational Education Act so important to business?

American business is facing increased competition from other countries. Offering the best products at the best price has always been the surest answer to competition, and our businesses can only do that if they use the latest technologies and if their workforce has state-of-the-art skills.

William Woodside, chairman of American Can, states it clearly: "Economic growth and renewal ultimately depend on the workforce. They depend on whether we, as a nation, can provide our people with the education, training and job opportunities that will allow them to reach their full potential and attain security in their personal lives."

Many companies—large and small—do not have the resources to develop their own training programs, and so must depend on educational institutions to help with the task. Just as important, people often need to update their skills to keep their jobs. A strong, vital vocational education system, closely in tune with employer and worker needs, can shoulder many of these responsibilities.

For the first time since 1976, Congress is reassessing the federal investment in vocational education. It's an opportunity to rethink how that investment can do the most good for students and the economy so that we can meet the challenges ahead.

How effective are current vocational programs in preparing young people to enter the workforce?

The vocational education system has been preparing people for skilled and semi-skilled jobs for the past 65 years. For the most part it has adjusted to and met the needs of the labor market. But as we all know, our economy and the skills it needs to remain productive and competitive are changing at an unbelievable rate. Vocational education, like business, must gear up quickly to meet those changes.

Recent studies by the Carnegie Foundation for the Advancement of Teaching and the National Research Council report that the quality of vocational education programs is uneven, the link between courses and jobs is inadequate, and disadvantaged students are frequently without access to high quality education.

These problems have serious implications for tomorrow's workforce and the economy. But they can be reduced or eliminated if we systematically encourage business and labor to identify for educators the skills needed in the workplace, and if we provide access to high quality education and training to people with barriers to employment.

How can the federal investment help?

The federal investment is about 10 percent of a \$6.5 billion public vocational education budget. Private and proprietary business, trade

and technical schools spend another \$2 billion a year. In the past, federal funds have been used to expand and encourage access to the public system. But if funds were redirected, they could be used to strengthen the quality of instruction in programs that prepare people for specific occupations, increase the flow of information between employers and educators, and increase the availability of quality programs for those most in need.

Why should business support a continued federal investment in vocational education?

Business people are very concerned about the growing federal deficit because it forces the government to compete for scarce investment dollars. For the economic health of the nation, we believe every federal program must be reexamined. Only those with a compelling justification should be continued. We believe some federal funding for vocational education can pass that test, but only if it's spent to help states continue to improve the quality and relevance of occupational education and to increase the participation of students most in need.

Aren't employers already involved in vocational education?

Vocational educators have frequently sought advice from business and most recognize the need to work with employers. But employer participation is very uneven. There hasn't been a strong structure to guarantee that educators will know what skills are really needed in the workplace, and when.

APPENDIX A

Don't misunderstand me. Business does not want to take over the schools or usurp the responsibilities of the educational system. But by giving business volunteers an organized opportunity to share their expertise on what skills graduates need to enter and succeed in the workplace, education will become stronger and society will benefit.

What's the best way to accomplish this?

We think governors should appoint industry-labor committees with a business majority to review state vocational education plans and report on whether they meet the state's labor market needs. These committees would also evaluate the effectiveness of occupationally-specific vocational education programs. To provide additional expertise, occupationally-specific technical committees of business and labor specialists from the industry would identify the skills needed in each occupation.

Outstanding educators, paid with federal funds, would staff these committees within state departments of education. They would incorporate state-of-the-art information from the technical committees into course curricula, instructional materials and training for instructors. Business people would not run the system. Their job would be to help educators find out what workers need to know and the state-of-the-art in each occupational skill.

We think there's a great deal to be gained from this partnership. As business people work more closely with vocational educators, employers and labor unions will develop a greater understanding and support for vocational education. Instructors will be able to do the job they want to do. Students will be able to get and keep good jobs. And employers will be able to get the trained, productive employees they need.

What should be the relationship between the Job Training Partnership Act and vocational education?

The Alliance does not think the two systems should be merged. The job training partnership is new and needs time to mature before undergoing any major change. But we do think vocational education and the partnership should work together, exchange information and share programs where appropriate.

The jobs law calls for coordination between the two systems, and we should look carefully at the design of the Vocational Education Act to make sure federal law doesn't make this impossible. One example is the planning cycle. The job training law has a two-year planning cycle; the AVA bill calls for a three-year cycle. Let's make them both the same and encourage private industry councils, state job training coordinating councils, and the state and local vocational education systems to work together. This would avoid costly duplication of information gathering and services.

Gene Bottoms, AVA's executive director, was right on target when he encouraged vocational educators "to reach out and build bridges." The easiest way I can think of to do this is to encourage cross membership in the councils and cross consultation on state and local plans.

Can the vocational education system meet this country's training needs in the 1980's and beyond?

The vocational education system can be the backbone of this nation's training and retraining delivery system. Our economy is evolving so rapidly that retraining will have to become a way of life for everyone. That's the only real safety net for individuals and businesses.

Today vocational education offers a wealth of outstanding programs, with a vast network of plants and facilities and millions of instructors in every state. We are asking that the federal investment be used now to help vocational education take another great step forward toward even greater excellence. If federal funds are used to help it teach the state-of-the-art skills needed in the workplace, vocational education will be a blessing to young people entering the workforce, to career workers who must keep up to advance in their jobs, to displaced workers who need new careers, and to the employers who need skilled employees.

If the federal investment is not devoted to helping the system meet the nation's occupational training and retraining needs, we will have to ask ourselves whether states and communities would not be better off relieved of the burden of federal regulation and free to spend their money to meet the needs of their students and their economies as they see fit.

APPENDIX B
FORUMS ON BUSINESS AND VOCATIONAL EDUCATION

Dallas, Texas
April 12, 1983

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